

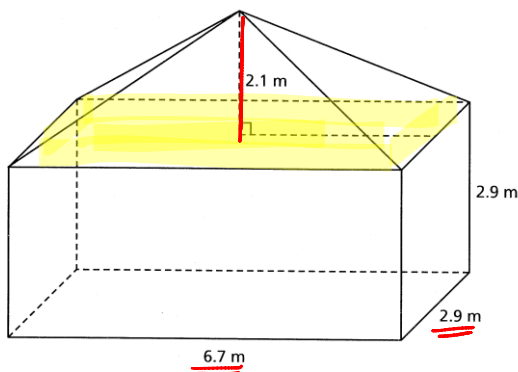
Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Math 10F&PC Chapter 1 Measurement**  
**1.7 Solving Problems Involving Objects**

A Composite object comprises two or more distinct objects. To determine the volume of a composite object, identify the distinct objects, calculate the volume of each object and then add the volumes.

**Example 1:** Determine the volume of this object to the nearest tenth of a cubic metre.



$$\text{Total } V = V_{\text{of Pyramid}} + V_{\text{rectangular Prism}}$$

Volume of pyramid

$$V = \frac{1}{3} (\text{Area of base}) \cdot h$$

$$V = \frac{1}{3} (6.7 \times 2.9) \cdot 2.1 = \underline{13.601 \text{ m}^3}$$

Volume of rectangular prism

$$V = (\text{Area base}) \cdot H$$

$$= L \cdot w \cdot h$$

$$= (6.7)(2.9)(2.9)$$

$$= 56.347 \text{ m}^3$$

$$\begin{aligned} \text{Total volume} &= 13.601 + 56.347 = 69.948 \text{ m}^3 \\ &= \boxed{69.9 \text{ m}^3} \end{aligned}$$

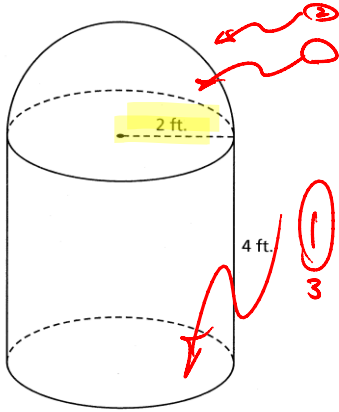
To calculate the **Surface Area** of a composite object:

1. calculate the faces that comprise the surface area

2. Then calculate the sum of the area of these faces  $\Sigma x = \text{sum of } x$

$\Sigma$  = Greek letter  
sigma = sum

**Example 2:** Calculate the surface area of this object to the nearest square foot.



1] calculate the SA of hemisphere

$$SA = \frac{1}{2} \times 4\pi r^2 = 2\pi r^2$$

$$SA = 2 \times 3.14 \times (2)^2 = 25.12 \text{ ft}^2$$

2] calculate the SA of [ ]

$$SA = \pi r^2 = 3.14 \times 2^2 = 12.56 \text{ ft}^2$$

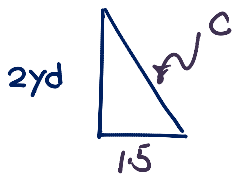
3] calculate the Area of circle

$$A_3 = \pi r^2 = 3.14 \times 2^2 = 12.56 \text{ ft}^2$$

$$\text{Total SA} = 25.12 + 25.12 + 12.56$$

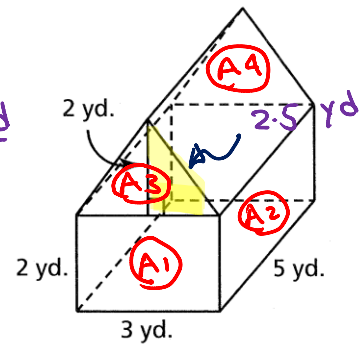
$$SA = 62.8 \text{ ft}^2 \approx \boxed{63 \text{ ft}^2}$$

**Example 3:** Determine the surface area of the following shed in square yards.



$$c^2 = a^2 + b^2$$

$$c = \sqrt{2^2 + 1.5^2} = \sqrt{6.25} = 2.5 \text{ yd}$$



$$A_1 = L \cdot W = 3 \times 2 = 6 \text{ yd}^2$$

$$A_2 = L \cdot W = 5 \times 2 = 10 \text{ yd}^2$$

$$A_3 = \frac{b \cdot h}{2} = \frac{3 \times 2}{2} = 3 \text{ yd}^2$$

$$A_4 = L \cdot W = 5 \times 2.5 = 12.5 \text{ yd}^2$$

$$\text{Total SA} = 2(A_1 + A_2 + A_3 + A_4)$$

$$= 2(6 + 10 + 3 + 12.5)$$

$$= 2 \times 31.5 = \boxed{63 \text{ yd}^2}$$

Practice test wed.  
CH. 1 test Friday Oct. 12/2012

**Assignment:** page 59 Q #3, 4, 5, 6, 8 and 9